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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,776	12/12/2003	Alan Kraemer	SRSLABS.323A	1852

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KNOBBE MARTENS OLSON & BEAR LLP
2040 MAIN STREET
FOURTEENTH FLOOR
IRVINE, CA 92614

EXAMINER

LEE, PING

ART UNIT	PAPER NUMBER
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2615

NOTIFICATION DATE	DELIVERY MODE
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09/19/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

jcartee@kmob.com
eOAPilot@kmob.com

Office Action Summary	Application No. 10/734,776	Applicant(s) KRAEMER ET AL.	
	Examiner Ping Lee	Art Unit 2615	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/4/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-53 is/are pending in the application.
- 4a) Of the above claim(s) 42,43,52 and 53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-41,44-51 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 34-40 and 44-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Oki et al (hereafter Oki) (US 4,972,489), as cited in the previous action.

Regarding claims 34 and 44, Oki discloses a method and a corresponding apparatus for generating a monophonic output from a pair of input signals, the method comprising:

phase adjusting a first input to an audio enhancement system to produce phase adjusted first information (by 13a);

enhancing a second input to the audio enhancement system to produce enhanced second information (by 12b);

inverting the enhanced second information (by 13b; col. 4, lines 36-41 with 180° phase shift); and

combining (by 14) at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, wherein phase adjusting the first input preserves audio information (the direct wave A as shown in Fig. 8a) such that signal cancellation is avoided during said combining (after combining the direct wave A with the phase-shifted wave, the original has not been cancelled; see Fig. 8d).

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Regarding claims 35 and 45, Oki shows in Fig. 11 the step of phase adjusting the first input to produce phase adjusted first information (by 13a); and phase adjusting the second input to produce phase adjusted second information (by 18), wherein the act of combining combines (by 14) at least a portion of the phase adjusted first information (from 13a), at least a portion of the phase adjusted second information (from 18), at least a portion of the enhanced first information (from 10c), and at least a portion of the inverted enhanced second information (from 13b with 180° phase shift) to generate an enhanced monophonic output.

Regarding claims 36 and 46, Oki shows the act of enhancing the first input and the act of enhancing the second input comprises adjusting amplitude of the first input and adjusting amplitude of the second input (by 10s).

Regarding claims 37 and 47, Oki shows the act of enhancing the first input and the act of enhancing the second input comprises adjusting an amplitude and phase of the first input (by 103 and 10a) and adjusting the amplitude and phase of the second input (by 10b, and one of 51 as shown in Fig. 9a, and the last phase shifter as the inverter).

Regarding claims 38 and 48, Oki shows, in Fig. 8c, adjusting the phase modifies a frequency response (although only transient response is shown, the system inherently has a frequency response; since the transient response is being modified, the frequency response is inherently modified as well) at frequencies where the frequency response of an audio enhancement system have approximately equal amplitudes and opposite phases so as to preserve audio information at the frequencies (the audio signal

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inherently has frequencies). As shown in Fig 8d, the listened wave is closely resemble the direct wave in Fig. 8a.

Regarding claims 40 and 50, Oki shows the acts of enhancing the first input and the second input comprise filtering and adjusting the gain of the first input and the second input (by 12a, 12b, 10a, 10b).

Regarding claims 39 and 39, Oki shows that a speaker (16) for reproducing audio from the enhanced monophonic output. The acts of enhancing are depended on speaker characteristics of the speaker (see abstract).

Claim Rejections - 35 USC § 103

3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

4. Claims 41 and 51 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oki.

Regarding claims 41 and 51, Oki fails to show a DSP. In Fig. 9a, Oki teaches an analog phase shifter. Examiner takes Official Notice that using a DSP for performing audio signal processing, such as phase shifting, inverting, enhancing and combining, is notoriously well known in the art. Thus, it would have been obvious to one of ordinary skill in the art to modify Oki by programming well-known DSP to perform such functions because it was considered as a matter of engineering design choice to use a DSP to replacing the analog circuit.

Response to Arguments

5. Applicant's arguments filed 6/4/08 have been fully considered but they are not persuasive.

Applicant's argument that Oki fails to show the limitation "combining at least a portion of the phase adjusted first information with at least a portion of the inverted enhanced second information to generate an enhanced monophonic output, wherein phase adjusting the first input preserves audio information such that signal cancellation is avoided during said combining" is not convincing. As shown in Fig. 8d, the listened wave is closely the same version as the direct wave after the combining the phase adjusted first information and the inverted enhanced second information. So the signal cancellation is avoided during the combining. Therefore, Oki meets the claimed limitation in claims 34 and 44.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ping Lee whose telephone number is 571-272-7522.

The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian C. Chin can be reached on 571-272-7848. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ping Lee/
Primary Examiner, Art Unit 2615

pwl